

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOSHIO HARIMA

Appeal 2007-4070
Application 10/625,531¹
Technology Center 3700

Decided: September 21, 2007

Before CAROL A. SPIEGEL, SALLY C. MEDLEY and MARK
NAGUMO, *Administrative Patent Judges*.

SPIEGEL, *Administrative Patent Judge*.

DECISION ON APPEAL

I. Introduction

Toshio Harima (hereinafter "Appellant") seeks review under 35
U.S.C. § 134(a) of the Examiner's final rejection of claims 1-10, all of the

¹ Application on appeal filed 24 July 2003. According to the Patent
Assignment Abstract of Title (Reel/Frame 013925/0310, 014112/0891 and
014120/0063), the real party-in-interest is K.O.L. ISLAND RETAINER,
LLC.

claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

Appellant's invention is directed to an orthodontic wire retainer. Claims 1, 5 and 6 are illustrative and read as follows (emphasis added):

1. An orthodontic wire retainer, comprising
 - a first metal wire for conforming to the posterior surface of a dental arch;
 - a second metal wire for conforming to the anterior surface of the dental arch;
 - a pair of third metal wires extending between the first metal wire and second metal wire;
 - said third metal wires attached to said first and second metal wires to form an annular bridge providing a resilient support for teeth along the dental arch;
 - a wire rest extending from said first wire for resting upon the top surface of the dental arch, said wire rest spaced from the end of the first wire.*
5. The orthodontic wire retainer of claim 1, wherein said wire rest has a first section attached to said first wire and extending toward said second wire.
6. The orthodontic wire retainer of claim 5, wherein said wire rest has a second section attached to said first section and extending toward said third wire.

The Examiner has rejected claims 1-5, 7-8 and 10 under 35 U.S.C. § 102(b) and claims 6 and 9 under 35 U.S.C. § 103(a).² The Examiner relies on the following prior art of record:

Harima US 4,725,230 Feb. 16, 1988

Harima qualifies as prior art under 35 U.S.C. § 102(b). Claims 1-5, 7-8 and 10 stand rejected under 35 U.S.C. § 102(b) as anticipated by Harima. Claims 6 and 9 stand rejected under 35 U.S.C. § 103(a) as obvious over Harima.

II. Findings of Fact ("FF")

The following findings of fact are supported by a preponderance of the evidence of record.

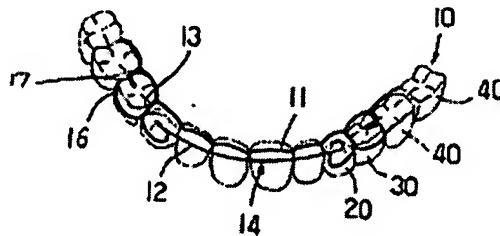
A. Appellant's Specification³

- [1] Use of an orthodontic retainer for some time after orthodontic treatment is said to be commonplace to prevent the teeth from relapsing into their pretreatment condition (Specification ¶ 2).
- [2] According to Appellant's specification, one object of the invention is "to provide a retainer having a clasp and rest to prevent sinking of the wire" (Specification ¶ 4).
- [3] Figure 2 of the specification illustrates a preferred retainer having a first wire **11**, extending along the posterior surface of the dental arch **10**, a second wire **12**, extending in a loop along the anterior surface of

² The Examiner has withdrawn the final rejection of claims 1-10 under 35 U.S.C. § 112, second paragraph (Examiner's Answer ("Answer"), mailed 4 May 2006, at 2).

³ In this decision, the specification as originally filed on 24 July 2003 is referred to as the "Specification." The specification as amended on 9 November 2004 is referred to as the "Amended Specification ('Am. Specification')."

the dental arch **10**, and a third wire **13**, fitting between a bicuspid tooth **20** and a premolar **13** and attached to the first and second wires **11, 12**. Figure 2 is shown below:

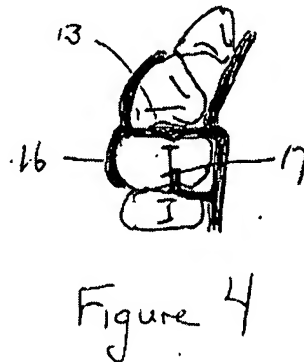


{Figure 2 is said to show a retainer in a front perspective view}⁴

- [4] Figure 2 is said to depict the first, second and third wires **11, 12, 13** as joined to form an integral annular bridge **14** said to provide resilient support for the dental arch (Specification ¶ 13).
- [5] Figure 2 is said to also depict both terminal ends of the first, second and third wires **11, 12, 13** curving along the surfaces of the molar **40**, premolar **30** and bicuspid **20**, respectively, on both sides of the dental arch **10** in a manner said to prevent sinking of the wire with respect to the dental arch **10** (Am. Specification ¶ 14).

⁴ The text in curly brackets following the Figures is provided to ensure compliance with section 508 of the U.S. Rehabilitation Act for publication of this Decision on the USPTO website pursuant to the Freedom of Information Act. It is not part of the Decision.

- [6] Figure 4 of the specification depicts a section of the retainer having a wire rest **17** and is shown below:



{Figure 4 is said to show top view of retainer section having a wire clasp and wire rest}

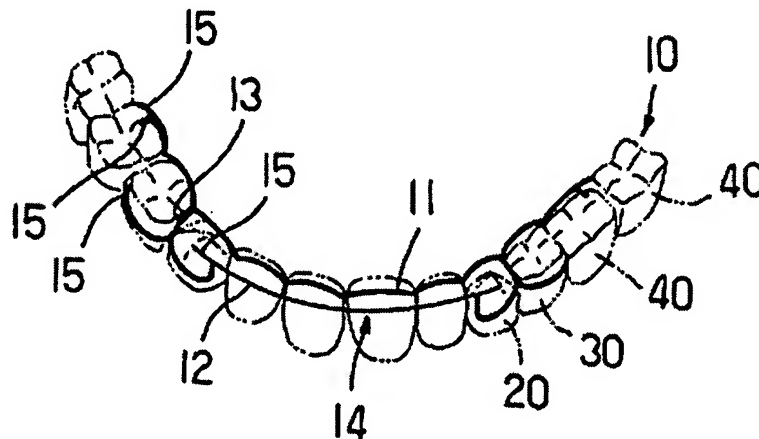
- [7] The section of the retainer illustrated in Figure 4 is said to show wire rest **17** as having an L-shape with a first section extending between premolar **30** and molar **40** and a second section resting on top of premolar **30** (Am. Specification ¶ 15). However, "if the third wire **13** were [sic] positioned between the premolar **30** and molar **40**, . . . , the wire rest would rest upon the molar **40**" (Am. Specification ¶ 15).
- [8] Wire rest **17** is said to be attached to first metal wire **11** and to prevent "elongation of the molar and sinking of the wire retainer" (Am. Specification ¶ 15).

B. Harima

- [9] Figure 1 of Harima depicts an orthodontic wire retainer comprising a first metal wire (**11**) conforming to the posterior surface of a dental arch, a second metal wire (**12**) conforming to the anterior surface of a dental arch, and a pair of third metal wires (**13**), wherein the first (**11**) and second (**12**) metal wires are fused to the third metal wires (**13**) to

form an annular bridge (14) which provides a resilient support for the dental arch (10) (Harima at col. 1, l. 60 through col. 2, l. 2; Figure 1).

Figure 1 is show below:

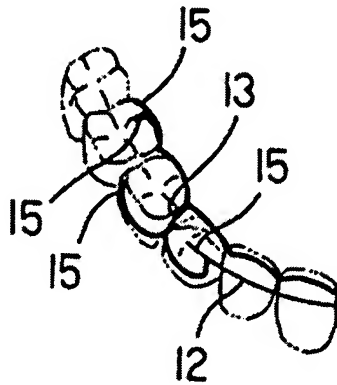


{Figure 1 of Harima is said to show a retainer in a front perspective view.}

[10] According to Harima,

for the purpose of preventing sinking of the wire retainer with respect to the dental arch (10), the terminal ends of said first stainless steel wire (11), second stainless steel wire (12) and third stainless steel wire (13) are curved along the surfaces of the molar (40), premolar (30) and canine (20), respectively, to form rests (15). In this embodiment, the third stainless steel wire (13) is disposed between canine (20) and premolar (30) or between premolar (20) [sic, 30] and molar (40) but in order to maintain the fitting and retention function of the wire retainer at a predetermined level, the position of said third stainless steel wire (13) is selected so that said rest (15) may exhibit the anti-sinking effect with respect to at least one premolar (30) or molar (40) externally of said annular bridge (14) (Harima at col. 2, l. 59 through col. 3, l. 5).

- [11] The upper left hand section of Figure 1, enlarged below for ease of viewing, depicts a hook-shaped rest (second **15** from the back of the dental arch) which is spaced apart from the end of the first wire (top **15**) and with a small "hook" extending externally of annular bridge **14** at the first molar (**40**) of the dental arch (**10**) toward the second wire **12** (*id.*).

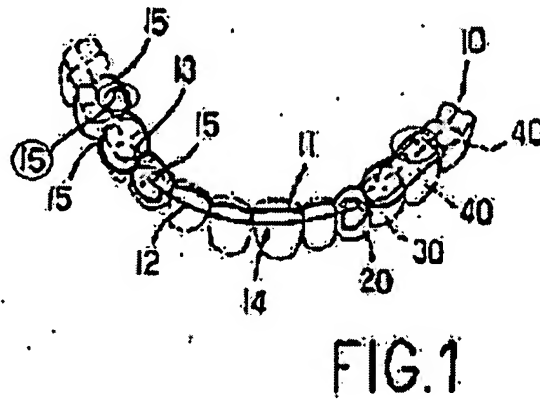


{Enlargement of the upper left-hand portion of Harima Figure 1.}

C. Rejections over the Prior Art and Rebuttal

- [12] The Examiner found, as to claims 1-5, 7-8 and 10, that Harima discloses an orthodontic wire retainer comprising a first metal wire 11, a second metal wire 12, a pair of third metal wires 13 (figure 1, column 1 line 62), the third metal wires attached to the first and second metal wires to form an annular bridge 14, and a wire rest 15, as circled below, extending from the first wire, the wire rest spaced apart from the end of the first wire. Figure 1 shows a wire clasp that is W-shaped and the wire rest is L-shaped. Figure 1 shows the wire rest having a first section attached to the first wire and extending toward the second wire. Figure 1 shows a second wire rest on the opposite side of the retainer from the (first) wire rest with the same configuration. [Answer at 3.]

- [13] The Examiner's reproduction of Harima Figure 1, with the second of the four pair of wire rests 15 depicted in the figure in a clockwise manner is shown below:



{Harima Figure 1 as annotated by the Examiner by circling a pair of wire rests 15.}

[Answer at 3.]

- [14] As to claims 6 and 9, the Examiner found that Harima discloses an orthodontic wire retainer comprising a wire rest having a second section attached to the first section, but does not show that the second section extending toward the third wire (Answer at 3).
- [15] The Examiner concluded that it would have been obvious to orient the second section of the wire rest as claimed to further exhibit anti-sinking effect because Harima states that "'said rest (15) may exhibit the anti-sinking effect with respect to at least one premolar (30) or molar (40) externally of said annular bridge (14).^[1]" (Answer at 3-4, closed inner quotation mark added).
- [16] According to the Examiner,

if the first metal wire is laid along the posterior surface of a dental arch (column 1 line 64) and the wire rest extends from the first wire and rests on a top surface of the dental arch as shown in figure 1, the wire rest would have to exhibit a change in dimensional direction (i.e., extending upward from the back of a tooth and curving forward to the top of the tooth) which may be described as "L-shaped" (Answer at 4).

- [17] As to claims 1-5, 7-8 and 10, Appellant argued that "[n]o reference numerals are provided in the rejection and no such structure [i.e., a wire rest spaced from the end of the first wire, having a first section attached to the first wire and extending toward the second wire and being L-shaped] is seen by Applicant" (Br. at 3-4).
- [18] As to claims 6 and 9, Appellant argued that not only was the structure which the Examiner considered as the wire rest unclear in Harima Figure 1, but also that Harima did not support the modification proposed by the Examiner (Br. at 4).

Other findings of fact are cited as necessary below.

III. Anticipation

Anticipation requires disclosure of each and every claim limitation in a single prior art reference, either explicitly or inherently. *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305 (Fed. Cir. 1999). Here, we agree with the Examiner that Harima explicitly discloses each and every limitation of claim 1 (FF 9–13). Appellant argues that the Examiner did not identify by reference numeral(s) where Figure 1 of Harima showed the pair of wire rests recited in claim 1 and Appellant could not see such structures (FF 17). In response, the Examiner annotated Harima Figure 1 by *circling* the structures found to satisfy the wire rest

limitation of claim 1 (Answer at 3; FF 12–13). Appellant did not dispute the Examiner's findings based on annotated Harima Figure 1. There is no apparent reason why Appellant could not have presented rebuttal arguments as to why the circled structure in annotated Harima Figure 1 did not meet the limitation of the wire rest component of the retainer of claim 1. Having failed to do so, we deem such arguments waived. Accordingly, we affirm the rejection of claim 1 under 35 U.S.C. § 102(b) over Harima. Since Appellant has not offered independent arguments against the rejection of claims 2-5, 7-8 and 10 under 35 U.S.C. § 102(b) as anticipated by Harima, we affirm that rejection without further discussion. 37 C.F.R. § 41.37(c)(1)(vii).

IV. Obviousness

A claimed invention is not patentable if the differences between what is claimed and the prior art are such that the claimed invention as a whole would have been obvious to one of ordinary skill in the art. 35 U.S.C. § 103(a). The legal conclusion of obviousness must be based on factual findings concerning the scope and content of the prior art, the differences between the prior art and the claimed invention, and the level of ordinary skill in the art. So-called secondary considerations, including evidence of unexpected results, may provide indicia of nonobviousness or obviousness. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1389 (2007); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). The inquiry into obviousness is "expansive and flexible" and not governed by rigid rules. *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1389. On appeal, the procedural burden is on Appellant to demonstrate reversible error by the Examiner.

The Examiner found that Harima discloses the invention of claims 6 and 9 but for showing the second section of the wire rest extending toward the third wire (FF 14). The Examiner concluded that it would have been obvious to orient the second section of the wire rest toward the third wire, i.e., to extend externally of the annular bridge, to further exhibit anti-sinking effect (FF 15). Appellant argued (prior to the Examiner submitting the annotated Harima Figure 1 in the Answer) that not only was the structure which the Examiner considered as the wire rest unclear in Harima Figure 1, but also that Harima did not support the modification proposed by the Examiner (FF 18).

First, as discussed above, Appellant has not disputed the Examiner's finding that the circled structures in annotated Harima Figure 1 discloses the wire rests recited in any of claims 1-5 or 7-8. Second, the Examiner explicitly identified the teaching in Harima relied upon to support her position (FF 15). We observe that the Examiner's finding corresponds to Appellant's disclosure of the function of wire rest 17 (FF8). The burden then shifted to Appellant to explain why the Examiner's prima facie case of obviousness is in error, e.g., why the explicitly identified teaching in Harima did not support the Examiner's conclusion of obviousness or why positioning the second section of the wire rest of the claimed retainer external of the annular bridge was outside of ordinary skill in the art or contrary to the teachings of the art. Thus, Appellant's unsupported assertion that "there is no teaching reference to support the modification proposed by the Examiner" (Br. at 4; FF 18) is contradicted by the teachings of Harima. On this record, Appellant has failed to demonstrate reversible error by the

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Examiner. Therefore, we affirm the rejection of claims 6 and 8 under 35 U.S.C. § 103(a) as obvious over Harima.

V. Summary

In view of the record and for the reasons given, it is
ORDERED that the rejection of claims 1-5, 7-8 and 10 under 35
U.S.C. § 102(b) as anticipated by Harima is AFFIRMED;
FURTHER ORDERED that the rejection of claims 6 and 9 under 35
U.S.C. § 103(a) as obvious over Harima is AFFIRMED; and,
FURTHER ORDERED that the time for taking further action is not
extendable under the provisions of 37 C.F.R. § 1.136(a).

AFFIRMED

VW

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